

REMARKS/ARGUMENTS

Favorable reconsideration of this application, as presently amended and in light of the following discussion, is respectfully requested.

Claims 1-16 are pending, with Claims 1, 7, and 11 amended by the present amendment.

In the Official Action, the abstract was objected to; Claims 1-16 were objected to; Claims 1, 8, 9, 13, 15 and 16 were rejected under 35 U.S.C. § 102(b) as being anticipated by Applicants Admitted Prior Art (APA); Claim 2 was rejected under 35 U.S.C. § 103(a) as being unpatentable over APA; Claims 11-12 was rejected under 35 U.S.C. § 103(a) as being unpatentable over APA in view of Huang et al (U.S. Patent No. 6,301,293, hereinafter Huang); and Claims 3-14 were indicated as containing allowable subject matter.

Applicant acknowledges with appreciation the indication of allowable subject matter.

Applicants acknowledge with appreciation the personal interview between the Examiner and Applicants' representative on February 12, 2007. During the interview, the Examiner confirmed that the Office Action Summary inadvertently did not indicate that the application stands finally rejected, as indicated in paragraph 11 of the Detailed Action portion of the Official Action. The Examiner also indicated that the present amendment would be entered and overcame the outstanding objections and rejections, and that the next Official Action would be either a Notice of Allowance or a second final rejection.

The abstract is amended as requested in the Official Action. No new matter is added.

Claims 1, 7, and 11 are amended in response to the outstanding objections. No new matter is added.

Briefly recapitulating, Claim 1 is directed to a method of processing a received signal. The method includes detecting within the received signal a plurality of possible symbols ( $d_k(i)$ ) transmitted by or for a plurality  $K$  of users, each of the plurality of possible symbols

belonging to a modulation constellation and being the subject of a spectral spreading by a spreading sequence. The step of detecting includes filtering the received signal, the filtering step adapted for supplying a complex vector characteristic of the received signal. The step of filtering includes decomposing the complex vector into a real vector and an imaginary vector. The step of detecting includes a) *searching separately* for at least a closest neighbor of the real vector and a closest neighbor of the imaginary vector within a respective real and imaginary lattice of points ( $\Lambda, \Omega$ ) corresponding to the modulation constellation, and b) estimating the transmitted symbols from components of the closest neighbor of the real vector and the closest neighbor of the imaginary vector so as to produce a vector of estimated symbols.

APA (Figure 2) does not *search separately* for at least a closest neighbor of the real vector and a closest neighbor of the imaginary vector within a respective real and imaginary lattice of points ( $\Lambda, \Omega$ ) corresponding to the modulation constellation. In APA (Figure 2), both real and imaginary vectors are searched together in block 220. In Applicants' claimed invention, real and imaginary vectors are searched separately as shown via blocks 320 and 321 or blocks 420 and 421 of Figures 3 and 4, respectively. Because APA (Figure 2) does not *search separately*, APA (Figure 2) does not estimate the transmitted symbols from components of the closest neighbor of the real vector and the closest neighbor of the imaginary vector so as to produce a vector of estimated symbols. By searching separately, improvements over the APA method of spherical searching may be obtained.<sup>1</sup>

MPEP § 2131 notes that “[a] claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference.” *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). See also MPEP § 2131.02. “The identical invention must be

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<sup>1</sup> Specification, page 7, lines 4-30.

shown in as complete detail as is contained in the ... claim." *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989). Because Li does not disclose or suggest all the features recited in Claim 1, Li does not anticipate the invention recited in Claim 1, and all claims depending therefrom.

Accordingly, in view of the present amendment and in light of the previous discussion, Applicant respectfully submits that the present application is in condition for allowance and respectfully request an early and favorable action to that effect.

Respectfully submitted,

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